REMARKS/ARGUMENTS

Reconsideration of this application is respectfully requested.

The Examiner's objection to equation (1) is not understood. This main equation is not in conflict with the definition of thermal conductivity set forth four lines later in the definition of terms. Accordingly, no "correction" is believed to be required and the Examiner is respectfully requested to reconsider claim 1 without any assumptions of re-writing equation (1).

In response to the objection to a minor typographical error at claim 1, line 16, this and other minor typographical errors have been corrected by the above amendment (both in the specification and in the claims). Accordingly, all outstanding formal issues are now believed to have been resolved in the applicant's favor.

The rejection of claims 1-7 under 35 U.S.C. §102 as allegedly anticipated by Srivastava et al. 1999 is respectfully traversed.

As repeatedly acknowledged throughout the specification, the Srivastava et al. 1999 prior art was indeed one of the starting points for applicants in making the presently claimed invention. However, as noted below, this earlier work is not believed to teach or suggest the further substantial improvement now disclosed and claimed in the present application.

The cited 1999 Srivastava et al. document deals with only one condition. That is, the mean temperature and its error bounds are given for only one condition – when the heat source is an exponentially decreasing with depth function and the boundary conditions are constant

surface temperature and constant basal heat flow. However, in geophysical studies other forms also need to be considered to obtain the sub surface temperature field.

In the present invention, the temperature and its error bounds are obtained for at least two different types of boundary conditions and at least three types of heat sources. Incorporation of the different types of heat sources into equation (1) results in a change of this equation and determination of mean temperature and its error bounds thereof for different types of boundary conditions.

In particular, the presently claimed invention provides closed form solutions for a selected one of different sets or types of physical boundary conditions. The cited document does not teach these elements. For example, the heat source may be zero while the boundary conditions are constant surface temperature and constant surface heat flow. In this situation, the invention provides a closed form solution to the mean temperature and its variance. Similarly this is also provided where the heat source is constant or the heat source is exponentially decreasing with depth. The presently claimed invention resides in the stated methodology of claim 1 which enables computing and plotting the mean and the variance in the temperatures for different boundary conditions and different heat sources. The values of the controlling input parameters given in boxes appearing on the computer screen can thereby result in an instantaneous generation of the plots. As such, the methodology of this invention differs from the methodology of the cited art.

Accordingly, this entire application is now believed to be in allowable condition and a formal Notice to that effect is respectfully solicited.

Respectfully submitted,

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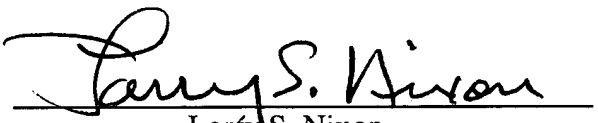
By: 

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